



DAFTAR PUSTAKA

- Al-Fa'is, J., R. S. Dewi, dan A. A. Sari. 2021. Biodegradasi bioplastik berbasis pati menggunakan isolat fungi indigenous asal tempat pembuangan akhir Gunung Tugel, Kabupaten Banyumas. Bioeksakta. 3(4): 205-215.
- Anastasia, L., E. A. Kodrat, H. Victor, A. Sanjaya, and R. Pinontoan. 2022. Isolation and characterization of indigenous amylolytic enzyme producing *Aspergillus* sp. from sweet-flavored tapai. Biodiversitas. 23(11): 5559-5565.
- Anonim. 2013. Material Safety Data Sheet: Oxium MSDS. Diakses pada tanggal 28 Juni 2022.
- Agustien, A., M. Jannah, and A. Djamaan. 2016. Screening polyethylene synthetic plastic degrading-bacteria from soil. Der Pharmacia Lettre: Scholars Research Library. 8(7): 183-187.
- Arellano-Caicedo, C., P. Ohlsson, M. Bengtsson, J. P. Beech, and E. C. Hammer. 2021. Habitat geometry in artificial microstructure affects bacterial and fungal growth, interactions, and substrate degradation. Communication Biology. 4,1226: 1-11.
- Ariyani, S. B., Asmawit, and P. P. Utomo. 2014. Optimasi waktu inkubasi produksi enzim selulase oleh *Aspergillus niger* menggunakan fermentasi substrat padat. Biopropal Industri. 5(2): 61-67.
- Arutchelvi, J., M. Sudhakar, A. Arkatkar, M. Doble, S. Bhaduri, and P. V. Uppara. 2008. Biodegradation of polyethylene and polypropylene. Indian Journal of Biotechnology. 7: 9-11.
- Ashok, A., R. Abhijith, and C. R. Rejeesh. 2018. Material characterization of starch derived bio degradable plastics and its mechanical property estimation. Materials Today: Proceedings. 5: 2163-2170.
- Astriani, R., dan N. Feladita. 2022. Perhitungan angka lempeng total (ALT) bakteri pada jamu gendong beras kencur yang beredar di pasar tradisional way kandis dan pasar tempel way halim. Jurnal Analis Farmasi. 7(2): 175-184.
- Awasthi, S., N. Srivastava, T. Singh, D. Tiwary, and P. K. Mishra. 2017. Biodegradation of thermally treated low density polyethylene by fungus *Rhizopus oryzae* NS 5. Biotech. 7:73.
- Badan Pusat Statistik. 2021. Persentase Komposisi Sampah di Indonesia (Persen) 2020-2021.
- Begum, M. A., B. Varalakshmi and K. Umamagheswari. 2015. Biodegradation of polythene bag using bacteria isolated from soil. International journal of Current Microbiology and Applied Sciences. 4(11): 674-680.



Biki, S. P., S. Mahmud, S. Akhter, M. J. Rahman, J. J. Rix, M. A. Al Bachchu, and M. Ahmed. 2021. Polyethylene degradation by *Ralstonia* sp. strain SKM2 and *Bacillus* sp. strain SM1 isolated from land fill soil site. *Environmental Technology & Innovation*. 22: 1-9.

Bradford, M. M. 1976. A rapid and sensitive method for the quantitation of microgram quantities of protein utilizing the principle of protein dye binding. *Analytical Biochemistry*. 72: 248-254.

Brock, T. D., M. T. Madigan, J. M. Martinko, and J. Parker. 2003. *Brock Biology of Microorganisms*. Upper Saddle, Prentice-Hall.

Cantor, K. M., & I. R. Harrison. 1990. Optimizing blown film polyethylene using a merit function. *Polymer Engineering and Science*, 30(19): 1205–1208.

Danso, D., J. Chow, and W. R. Streit. 2019. Plastics: environmental and biotechnological perspectives on microbial degradation. *Applied and Environmental Microbiology*. 85(19): 1-14.

Darliana, I., dan S. Wilujeng. 2020. Isolasi dan karakterisasi jamur indigenous dan potensinya untuk biodelignifikasi. *Jurnal Agrotek Indonesia*. 2(5): 1-6).

Das, M. P., and S. Kumar. 2015. An approach to low-density polyethylene biodegradation by *Bacillus amyloliquefaciens*. *3 Biotech*. 5: 81-86.

Dellanerra, D. A. Risandi, A. Sunari, D. Sukmawati, S. N. Al-Husna, and H. A. El-Enshasy. 2019. Screening and characterization of amyloitic mold originated from ghost crab (*Ocypode* sp.) in Cidaon, Ujung Kulon National Park, Indonesia. *AIP Conference Proceedings*. 2120: 1-9.

Demjanová, S., P. Jevinová, M. Pipová, and I. Regecová. 2021. Identification of *Penicillium verrucosum*, *Penicillium commune*, and *Penicillium crustosum* isolated from chicken eggs. *Processes*. 9(35): 1-14.

Egbere, O. J., G. P. Mang, J. O. Pondei, A. D. Yakubu, and O. Dayok. 2014. Screening of cellulolytic and amyloytic fungi associated with corncobs in refuse dumps within Jos, Nigeria. *International Journal of Microbiology and Immunology Research*. 3(4):52-57.

Essiedu, J. A., F. S. Johnson, and F. Ayimbila. 2021. Isolation of amylase producing fungi from cassava flour. *Fungal Territory*. 4(1): 5-9.

Fadilla, M. N. 2020. Biodegradasi LPDE (*Low Density Polyethylene*) Oleh Isolat Fungi Indigenus Asal Tempat Pemrosesan Akhir Talangagung, Kepanjen, Kabupaten Malang. *Fakultas Sains dan Technology. Universitas Islam Negeri Maulana Malik Ibrahim. Skripsi*.



Gajendiran, A., S. Krishnamoorthy, and J. Abraham. 2016. Microbial degradation of lowdensity polyethylene (LDPE) by *Aspergillus clavatus* strain JASK1 isolated from landfill soil. *3 Biotech.* 6:52.

Gandjar, dan Indrawati. 2006. Mikologi Dasar dan Terapan. Yayasan Obor Indonesia, Jakarta.

Gultom, E. S., M. Y. Nasution, dan A. Ayu. 2017. Seleksi bakteri pendegradasi plastik dari tanah. *Jurnal Generasi Kampus.* 10 (2): 169-179.

Hansson, T. 2018. End-of-life scenarios for bioplastic food and drinking packages. Swedish University of Agricultural Sciences.

Harefa, R. S. M. 2016. Biodegradasi plastik (*Low Density Polyethylene*) Menggunakan Jamur dari Tempat Pembuangan Akhir (TPA). Universitas Sumatera Utara. Skripsi.

Hasanah, U., T. Ardyati, and D. Siswanto. 2021. Identification of sago-pulp amylolytic bacteria and its utilization for granulated fertilizer. *The Journal of Experimental Life Science.* 11(2): 34-42.

Joshi, N., P. Andhare, F. Marchawala, I. Bhattacharya, and D. Upadhyay. 2021. A study on amylase: review. *International Journal of Biology, Pharmacy, and Applied Sciences.* 10(4): 333-340.

Jufri, R. F. 2020. Microbial isolation. *Journal La Lifesci.* 1(1): 18-23.

Kale, S. K., A. G. Deshmukh, M. S. Dudhare, and V. B. Patil. 2015. Microbial degradation of plastic: A review. *Journal Biochemical Technology.* 6(2): 952-961.

Kalia, S., A. Bhattacharya, S. K. Prajapati, and A. Malik. 2021. Utilization of starch effluent from a textile industry as a fungal growth supplement for enhanced α-amylase production for industrial application. *Chemosphere.* 279,130554: 1-12.

Kamsiati, E., H. Herawati, dan E. Y. Purwani. 2017. Potensi pengembangan plastik *biodegradable* berbasis pati sagu dan ubikayu di Indonesia. *Jurnal Litbang Pertanian.* 36(2): 67-76.

Karad, R.T., and S. Havalammanavar. 2017. Waste plastic to fuel-petrol, diesel, kerosene. *International Journal of Engineering Development and Research* 5: 641-645.

Kershaw, P. J. 2015. Biodegradable Plastics and Marine Litter: Misconceptions, Concerns, and Impacts on Marine Environments. United Nations Environment Programme (UNEP), Nairobi.



- Khan, J. A. and R. Priya. 2011. A study on partial purification and characterization of extracellular amylases from *Bacillus subtilis*. Advances in Applied Science Research. 2(3): 509-519.
- Khan, S., S. A. Ali, and A. S. Ali. 2023. Biodegradation of low density polyethylene (LDPE) by mesophilic fungus '*Penicillium citrinum*' isolated from soils of plastic waste dump yard, Bhopal, India. Environmental Technology. 44(15): 2300-2314.
- Khokar, I., I. Mukhtar, and S. Mushtaq. 2011. Isolation and screening of amylolytic filamentous fungi. Journal of Applied Sciences and Environmental Management. 15(1): 203-206.
- Kurniawati, I. 2015. Karakteristik maltodekstrin biji nangka dengan hidrolisis enzim α -amilase. Profesi (Profesional Islam): Media Publikasi Penelitian. 13(1).
- Lestari, P. B., dan T. W. Hartati. 2017. Mikrobiologi Berbasis Inquiry. Penerbit Gunung Samudera: PT Book Mart, Indonesia.
- Lucas, N., C. Bienaime, C. Belloy, M. Queneudec, F. Silvestre, and J. E. N. Saucedo. 2008. Polymer biodegradation: Mechanisms and estimation techniques. Chemosphere. 73: 429-442.
- Mahadiyah, D., and B. H. Mukti. 2013. Isolation of polyethylene plastic degrading-bacteria. Bioscience International. 2: 29-32.
- McCleary, B. V., D. Mangan, V. McKie, C. Cornaggia, R. Ivory, and E. Rooney. 2014. Colourimetric and fluorometric substrates for measurement of pullulanase activity. Carbohydrate Research. 393: 60-69.
- Mohanan, N., Z. Montazer, P. K. Sharma, and D. B. Levin. Microbial and enzymatic degradation of synthetic plastics. Frontiers in Microbiology. 11: 1-22.
- Muhonja, C. N., H. Makonde, G. Magoma, and M. Imbuga. 2018. Biodegradability of polyethylene by bacteria and fungi from Dandora Dumpsite Nairobi-Kenya. Plos ONE.
- Muriithi, J., J. W. Matofari, and J. M. Nduko. 2021. Amylolytic microorganisms from diverse tropical environments: Isolation, identification, and amylase production. Applied Research. 1-8.
- Nathania, T. R., dan N. D. Kuswytasari. 2013. Studi potensi isolat kapang wonorejo surabaya dalam mendegradasi polimer bioplastik *polyhydroxy butyrate* (PHB). Jurnal Sains dan Seni ITS. 2: 55-58.
- Napper, I. E., and R. C. Thompson. 2019. Environmental deterioration of biodegradable, oxo-biodegradable, compostable, and conventional plastic carrier



bags in the sea, soil, and open-air over a 3-year period. Environmental Science and Technology. 53(9): 4775-4783.

Nguyen, D. M., T. V. V. Do, A. C. Grillet, H. H. Thuc, and C. N. H. Thuc. 2016. Biodegradability of polymer film based on low density polyethylene and cassava starch. International Biodeterioration and Biodegradation. 115: 257-265.

Nisa, I. K., S. Prabaningtyas, B. Lukati, R. T. Saptawati, and A. Rodiansyah. 2021. The potential of amylase enzyme activity against bacteria isolated from several lakes in East Java, Indonesia. Biodiversitas. 22(1): 42-49.

Nkwachukwu, O. I., C. H. Chima, A. O. Ikenna and L. Albert. 2013. Focus on potential environmental issues on plastic world towards a sustainable plastic recycling in developing countries. Intr. J of Industrial Chemistry. 4(34): 1-13.

Nurhartadi, E., dan E. S. Rahayu. 2011. Isolasi dan karakterisasi yeast amilolitik ragi tape. Jurnal Teknologi Hasil Pertanian. 4(1): 66-73.

Ogbonna, I. O., and J. C. Ogbonna. 2015. Isolation of microalgae species from arid environments and evaluation of their potentials for biodiesel production. African Journal of Biotechnology. 14(18): 1596-1604.

Ojha, N., N. Pradhan, S. Singh, A. Barla, A. Shrivastava, P. Khatua, V. Rai and S. Bose. 2017. Evaluation of HDPE and LDPE degradation by fungus, implemented by statistical optimization. Scientific Reports. 7: 1-13.

Patil, A. G., K. Khan, S. Aishwarya, S. Padyana, R. Huchegowda, K. R. Reddy, R. Pais, H. Alrafas, R. Dsouza, J. Madhavi, A. N. Yadav, A. V. Raghu, and F. Zameer. 2021. Fungal amylases and their industrial applications. Industrially Important Fungi for Sustainable Development. 2: 407-434.

Peacock, A. J. 2000. Handbook of Polyethylene: Structure, Properties, and Application. Marcel Dekker Inc., New York.

Pudjiastuti, W., A. Listyarini dan Sudirman. 2012. Polimer nanokomposit sebagai master batch polimer biodegradable untuk kemasan makanan. Jurnal Riset Industri. 6(1): 51-60.

Putri, R. D. 2018. Isolasi dan Identifikasi Jamur Penghasil Acc Deaminase dari Rhizosfer dan Akar Tanaman yang Tumbuh Sehat di Lahan Salin. Universitas Gadjah Mada. Skripsi.

Pramesti, H. A., K. Siadi, dan E. Cahyono. 2015. Analisis rasio kadar amilosa /amilopektin dalam pati dari beberapa jenis umbi. Indonesian Journal of Chemical Science. 4(1):26-30.

Radouane, N., H. Adadi, S. Ezrari, J. Kenfaoui, Z. Belabess, F. Mokrini, E. A. Barka, and R. Lahlali. Exploring the bioprotective potential of halophilic bacteria



against major postharvest fungal pathogens of citrus fruit *Penicillium digitatum* and *Penicillium italicum*. Horticulturae. 9(922): 1-17.

Rajagopalan, G., and C. Krishnan. 2008. Alpha-amylase production from catabolite derepressed *Bacillus subtilis* KCC103 utilizing sugarcane bagasse hydrolysate. Bioresour. Technol. 99: 3044–3050.

Rohmah, U. M., M. Shovitri, dan N. D. Kuswytasari. 2018. Degradasi plastik oleh jamur *Aspergillus terreus* (LM 1021) pada pH 5 dan 6; serta suhu 25°C dan 35°C. Jurnal Sains dan Seni ITS. 7 (2): 2337-3520.

Ruhimat, R., G. Djajakirana, dan S. Antosius. 2022. Fungi dekomposer penghasil enzim ekstraseluler lakase, mangan peroksidase, dan lignin peroksidase dari kawasan kebun raya bogor: isolasi, seleksi, identifikasi dan kajian aktivitas enzimnya. Jurnal Biologi Indonesia. 18(1): 111-119.

Saif, F. A., S. A. Yaseen, A. S. Alameen, S. B. Mane, and P. B. Undre. 2020. Identification of *Penicillium* species of fruits using morphology and spectroscopic methods. Journal of Physics: Conference Series. 1644: 1-10.

Sangale, M. K., M. Shahnawaz, and A. B. Ade. 2012. A review on biodegradation of polythene: The microbial approach. Journal Bioremediation and Biodegradation. 3(10):1-7.

Sulistyarti, H., Atikah, Q. Fardiyah, S. Febriyanti, and Asdauna. 2015. A simple and safe spectrophotometric method for iodide determination. Makara Journal of Science. 19(2): 43-48.

Surono, U., dan Ismanto. 2016. Pengolahan sampah plastik jenis pp, pet dan pe menjadi bahan bakar minyak dan karakteristiknya. Jurnal Mekanika dan Sistem Termal. 1(1): 32-37.

Tateno, T., H. Fukuda, and A. Kondo. 2007. Production of L-lysine from starch by *Corynebacterium glutamicum* displaying α-amylase on its cell surface. Applied Microbiology and Biotechnology. 74: 1213–1220.

Thielen, M. 2014. Bioplastics: Plants and Crops Raw Materials Products. Fachagentur Nachwachsende Rohstoffe e.V. (FNR) Agency for Renewable Resources. Diakses 6 July 2022.

Thomas, B. T., D. S. K. Olanrewaju-Kehinde, O. D. Popoola, and E. S. James. 2015. Degradation of plastics and polyethene materials by some selected microorganisms isolated from soil. World Applied Sciences Journal. 33(12): 1888-1891.

Vivi, V. K., S. M. Martins-Franchetti, and D. Attili-Angelis. 2019. Biodegradation of PCL and PVC: *Chaetomium globosum* (ATCC 16021) activity. Folia Microbiologica. 64: 1-7.



Wang, N. S. 2009. Experiment no. 5: Starch Hydrolysis by Amylase. Department of Chemical & Biomolecular Engineering. University of Maryland.

Widyasari, R., 2010. Kajian penambahan onggok termoplastis terhadap karakteristik plastik komposit polietilen. Bogor Agricultural University. Institut Pertanian Bogor. Doctoral Dissertation.

Zeenat, A. Elahi, D. A. Bukhari, S. Shamim, and A. Rehman. 2021. Plastics degradation by microbes: A sustainable approach. Journal of King Saud University. 33: 1-11.